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LEVEL news

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Difficulty Getting Boats Out For Winter

Shallow River Hinders Boaters

A declining Lake Ontario level and continued higher-than average outflows through the lake's regulation structure at Cornwall led to low water problems for some recreational boaters this fall.

"Every fall, Lake Ontario's level drops to its seasonal low and doesn't begin to rise again until late winter," explains Peter Yee, Head of Environment Canada's Great Lakes-St. Lawrence Regulation Office in Cornwall.

"As the level of the lake declines, the amount of water flowing into the St. Lawrence River also declines. This means a lower level on Lake St. Lawrence, immediately upstream of the Moses-Saunders power dam at Cornwall."

High flows through the dam can draw the water level down even farther. For boaters who have left their vessels in the water late into the fall, these lower levels can hinder their efforts to remove their boats from the water.

"Boaters should be closely monitoring river levels in the fall," advises Yee.

"If you store your boat in one location for the winter and keep it moored in a different location all summer, you should make sure that the water is not too shallow to sail your boat back to its point of origin when fall rolls around."

Lake Ontario continued very close to its long-term average level throughout October, as it has for the past 12 months. However,last month's outflow was about 10 per cent above the long-term October average. This was due, partly to a feature of the regulation plan that considers recent high water supplies from the upper lakes, and partly due to efforts to pass volumes of water stored on the lake during the summer.

All of the Great Lakes began November very close to their levels of the same time last year. However, Lakes Michigan-Huron, St. Clair and Erie remained between 22 and 33 cm above their long-term averages for the time of year.

Meanwhile, Montreal Harbour continued its steady drop begun in April. However, the harbour is still forecast to remain above chart datum for the six-month forecast period. The Harbour forecast could vary throughout the winter due to changing ice conditions in the St. Lawrence River.

"Balancing The Books" For Lake Ontario

The regulation of Lake Ontario involves more than increasing the outflow when water levels are high and decreasing it when levels are low. It involves a detailed accounting of all of the water that passes out of the lake.

The lake's Regulation Plan prescribes specific outflows, depending upon seasonal water supplies. These flows are intended to achieve particular effects, such as a reduced range of water level fluctuation, optimal amounts of water for hydro power generation, and safe passage through commercial shipping channels.

However, deviations from the regulation plan are sometimes made to compensate for extremely high or low water supplies, to avoid downstream flooding, to allow for maintenance of hydro facilities, or to compensate for winter ice restrictions.

These deviations result in under-discharges or over-discharges in relation to those prescribed by the regulation plan. These over- or under-discharges are recorded from week to week, and their totals are accumulated in much the same way that you might carry over a positive or negative balance in your cheque book. When the opportunity arises, efforts are made to balance the accounts by either discharging accumulated water storage, or by storing water after previously high discharges.

Normally, accumulated over- and under-discharges are cleared by the end of each year. This allows for deviations from the regulation plan during the winter and spring, when emergency situations are most likely to arise.

Conditions on Lake Superior rarely call for deviations from its regulation plan. This lake's size means that its level is more stable. Because Lake Ontario's water supplies come from all of the upper lakes in addition to the surrounding land mass, and because it has a much smaller storage capacity than lake Superior, its outflows require weekly, rather than monthly adjustments. These frequent adjustments make "balancing the books" particularly important.